Name:

at1113exam: Expand, factor, and solve quadratics (v301)

1. Expand the following expression into standard form.

$$(7x + 9)(7x - 9)$$

$49x^2 - 63x + 63x - 81$

$49x^2 - 81$

2. Expand the following expression into standard form.

$$(5x - 3)(6x + 7)$$

$30x^2 + 35x - 18x - 21$

$30x^2 + 17x - 21$

3. Expand the following expression into standard form.

$$(3x + 7)^2$$

$9x^2 + 21x + 21x + 49$

$9x^2 + 42x + 49$

4. Solve the equation.

$$(5x + 2)(8x - 7) = 0$$

$x = \frac{-2}{5}$ $\quad$ $x = \frac{7}{8}$

5. Solve the equation with factoring by grouping.

$$10x^2 + 8x + 15x + 12 = 0$$

$$(2x + 3)(5x + 4) = 0$$

$$x = \frac{-3}{2} \qquad x = \frac{-4}{5}$$

6. Solve the equation.

$$6x^2 - 26x + 5 = 3x^2 + 2x - 4$$

$$3x^2 - 28x + 9 = 0$$

$$(3x - 1)(x - 9) = 0$$

$$x = \frac{1}{3} \qquad x = 9$$

7. Factor the expression.

$$36x^2 - 25$$

$$(6x - 5)(6x + 5)$$

8. Factor the expression.

$$x^2 - 13x + 42$$

$$(x - 7)(x - 6)$$